Commercial Standard CS200-55

Hardwood Veneered Hollow-Core Flush Doors

A RECORDED VOLUNTARY STANDARD OF THE TRADE

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The purpose of Simplified Practice Recommendations is to eliminate avoidable waste through the establishment of standards of practice for stock sizes and varieties of specific commodities that currently are in general production and demand. The purpose of Commercial Standards is to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition.

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UNITED STATES DEPARTMENT OF COMMERCE

Sinclair Weeks, Secretary

U.S. DEPARTMENT OF COMMERCE

SINCLAIR WEEKS, Secretary

Prepared by

OFFICE OF TECHNICAL SERVICES
Commodity Standards Division

In cooperation with

NATIONAL BUREAU OF STANDARDS

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Hardwood Veneered Hollow-Core Flush Doors

[Effective September 20, 1955]

1. PURPOSE

1.1 The purpose of this Commercial Standard is to establish standard specifications for hardwood veneered hollow-core flush doors for the guidance of producers, distributors, architects, builders, and the public; to provide a uniform basis for guaranteeing compliance through the use of labels or certifications; to avoid delays and misunderstandings; and to effect economies from the producer to the ultimate user through a wider utilization of standard hardwood veneered hollow-core flush doors.

1.2 Custom-made hardwood veneered hollow-core flush doors will continue to be available for all types of architectural designing.

1.3 In keeping with the modern trend toward economy and simplification of installation, doors may be specified "prefit" to the exact size required. (See section 6.)

2. SCOPE

2.1 This standard provides minimum specifications for hollow-core flush doors in three nominal thicknesses, $1\frac{1}{8}$, $1\frac{3}{8}$, and $1\frac{3}{4}$ inches. It covers construction, grades, tolerances, inspection, methods of test, labeling, and nomenclature and definitions.

2.2 For standard specifications for hardwood veneered solid-core flush doors and stile and rail doors, see Commercial Standard CS171-50, or later editions.

3. GENERAL REQUIREMENTS

3.1 All doors shall be well manufactured, and shall meet the following requirements.

3.2 *Material.*—Doors shall be constructed of thoroughly seasoned kiln-dried wood, the moisture content of which shall not exceed 12 percent. Cores may be made of wood, of a wood derivative, or of insulation board which complies with Commercial Standard CS42-49, Class A. (See par. 3.12.)

3.3 *Adhesives and bondage.*—Adhesives used for all fabrication of interior hollow-core doors shall be at least equal to those used for Type II plywood (water-resistant bond), as defined in Commercial Standard CS35-49 (or later edition) for hardwood plywood, unless otherwise specified. Adhesives used for all fabrication of exterior hollow-core doors shall be at least equal to those used for Type I plywood (fully waterproof bond), as defined in Commercial Standard CS35-49 (or later edition).

3.3.1 *Bondage for interior doors.*—The bond shall retain practically all of its strength when occasionally subjected to a thorough wetting and drying, and shall be of such quality that test specimens will withstand the cold soak test described in paragraph 4.1.

3.3.2 *Bondage for exterior doors.*—The bond shall withstand full weather exposure and shall be unaffected by micro-organisms, provided the exterior face and the top and bottom of the door shall have been finished with two coats of paint or varnish after fitting and before exposure to the weather. The bond shall be of such quality that specimens will withstand the waterproof bond test described in paragraph 4.2.

3.4 *Sanding.*—Doors shall be clean and smoothly sanded to a finish, ready for finishing without further sanding, except for removal of handling marks or effects of exposure to moisture.

3.5 *Thickness.*—Doors shall be of the following thicknesses, and a thickness tolerance of ±1/16 inch shall be allowed, except that for 3/4-inch doors a thickness tolerance of ±1/32 inch shall be allowed:

Cupboard doors	1 1/8" and thinner
Interior doors	1 3/8" and 1 3/4"
Exterior doors	1 3/4"
Toilet doors	1 1/8"

3.6 *Size tolerance.*—Unless otherwise specified, a height and width tolerance of ±1/16 inch shall be allowed except when doors are ordered "prefit."

3.7 *Squareness tolerance.*—If all four corners of a door are perfectly square (right angles), the length of the diagonal on the face from the upper right corner to the lower left corner will be the same as the length of the diagonal from the upper left corner to the lower right corner. A squareness tolerance of 1/8 inch difference in the length of these diagonals shall be allowed.

3.8 *Warp or twist tolerance.*—The warp or twist tolerance for flush doors, under normal service conditions, shall be 1/4 inch, except where the surface area of one face of the door is less than 10 square feet; where the surface is less than 10 square feet, the warp or twist tolerance shall be 1/8 inch, as determined by method of test described in paragraph 4.3.

3.9 *Face grain.*—Unless otherwise specified, the grain of the face veneer shall run vertically.

3.10 *Light openings.*—Doors may be cut for light openings as specified.

3.11 *Light opening weatherproofing.*—The method of weatherproofing light openings in exterior doors shall be optional with the manufacturer, provided the method shall effectively prevent moisture from leaking into the core.

3.12 *Core construction.*—This standard embraces three types of core construction; viz, (a) mesh core (also known as lattice or grid core); (b) ladder core; and (c) implanted blanks core. (See section 9 for definitions of these three types.)

3.12.1 *Mesh core and ladder core.*—Core parts of members shall be uniformly spaced. The area of the intervening spaces shall be optional with the manufacturer provided the core supports the outer plywood sufficiently to insure strength and stability adequate for normal usage, and provides a flat surface after bonding with no irregular surfaces showing on the faces after sanding. All core parts or members shall be bonded to face panels as specified in paragraph 3.3.

3.12.2 *Implanted blanks core.*—The blanks shall be of a density of not less than 15 pounds per cubic foot at a moisture

content of 12 percent, and shall be uniformly spaced. The area of intervening spaces between the blanks shall be optional with the manufacturer provided the core supports the outer plywood sufficiently to insure strength and stability adequate for normal usage, and provides a flat surface after bonding with no irregular surfaces showing on the faces after sanding. All blanks shall be bonded to face panels as specified in paragraph 3.3.

3.13 *Edge strips.*—At the option of the manufacturer the finished edges may be either the outside edges of the stiles and rails or a separate edge strip. Unless otherwise specified, the species of wood used for the separate edge strip shall be optional with the manufacturer. When a separate edge strip is provided on stiles, the minimum width of the edge strip shall be ½ inch after trimming; but when so provided, the minimum width of stiles specified in paragraph 3.14 may be reduced, provided the combined width of the stile and the edge strip shall not be less than 1⅛ inches.

3.14 *Stiles and rails.*—The minimum width of stiles shall be 1⅛ inches. (See also par. 3.13 relating to edge strips.) The exposed edge of the stile shall be a smooth, straight cut and shall be free from knots, pitch pockets, and other defects for a distance of at least ½ inch from the outside edge along the entire length of the stile. The minimum width of rails shall be 2½ inches.

3.15 *Lock blocks.*—Two lock blocks shall be provided in each door, each located directly adjacent to the stile with the midlength point of the lock block located at the midlength of the stile. The minimum length of each lock block shall be 20 inches. The minimum combined width of the lock block and its adjacent stile shall be 4 inches.

3.16 *Preparation for hardware.*—Doors shall be mortised for locks and cut for hinges when so specified.

3.17 *Face panels* shall be plywood of two or more plies, with a total minimum thickness of 1/10 inch before sanding. Face veneers shall be of standard commercial thickness, but not less than 1/28 inch before sanding. The face veneer of all Premium Grade hollow-core doors shall be tight, smoothly cut veneer unselected for uniformity of color. When the face veneer consists of more than one piece, joints shall be tight and the face veneer shall be matched at the joints for color and grain. A few burls, mineral streaks, and slight discolorations shall be permitted. Knots, wormholes, splits, shake, and torn grain shall not be permitted. The face veneer of all Good Grade hollow-core doors shall be of the species of wood specified and each face shall be made up of tight, smoothly cut veneer containing the natural character markings inherent in the species. If made of more than one piece, the faces shall be matched at the joints, to avoid sharp contrasts in color and grain. A few small burls, occasional pin knots, and slight color streaks or spots shall be permitted. Knots (other than pin knots), wormholes, splits, shake, doze, and other forms of decay shall not be permitted. The face veneer of all Paint Grade hollow-core doors shall be of the species of wood specified, and any defect that will not be visible after two coats of paint shall be permitted.

4. METHODS OF TEST

4.1 *Cold soak test for interior doors.*—The door to be tested shall be selected at random and shall be in the white. The test specimens shall be four rectangular 6" x 6" corner sections of the door, and shall include the stile and rail and core material. The purpose of the test is to determine whether or not the bond between the plies of the plywood face, and between the plywood face and the stiles and rails will successfully withstand the effects of repeated wetting and drying.

The specimens shall be submerged in water at room temperature for a period of 4 hours, after which they shall be allowed to dry at a temperature of between 70° and 100° F for a period of 20 hours. The cycle shall then be repeated.

The specimens shall be determined to have successfully withstood this test if there is no single delamination between any two layers of veneers, or between the plywood face and the stile or rail which is more than 2 inches in length or more than ⅛ inch in depth at any point. These allowable delaminations shall be in addition to delaminations due to pitch pockets, knotholes, shake, wormholes, splits, and other wood defects. If 3 of the 4 specimens successfully withstand this test, the door shall be deemed to have passed. If more than 1 of the specimens fails to withstand the test, it shall be repeated with 4 additional specimens from another door. If 3 of the 4 additional specimens successfully withstand this test, the door shall be deemed to have passed. If the first or second door, as described above, passes the test, the lot from which the door was selected shall be deemed to have passed.

4.2 *Waterproof bond test for exterior doors.*—The door to be tested shall be selected at random and shall be in the white. The following test specimens are required: 10 specimens of the plywood face of the door of the form shown in figure 2 of Commercial Standard CS35-49 (or later edition), and 4 rectangular 6" x 6" corner sections of the door, including the stile and rail and core material. If the faces are two-ply, the plywood shear specimens shall be cut to include a section of the stile, which section shall then be cut again so that the part of the stile remaining is about ⅒ inch in thickness and forms the third ply of the shear specimen.

All the specimens shall be boiled in water for 4 hours and then dried for 20 hours at a temperature of 145° F (±5° F). They shall then be boiled again for 4 hours and cooled in water. The 10 specimens of the plywood face of the door shall be tested, while wet, in a shear testing machine to failure (as described in par. 5.3 of Commercial Standard CS35-49). These specimens shall meet the requirements of tables 5 and 6, paragraph 5.4.2, Commercial Standard CS35-49 (or later edition).

There shall be no separation of the plies at the glue line. If the number of plies exceeds three, at least one-half of the test shall include the innermost joints. The specimens of the 6" x 6" corner section shall not be subjected to the shear test but shall be determined to have withstood the boil test if after redrying for 20 hours at 145° F (±5° F) the joints show no single delamination between any two layers of veneer or between the plywood face and the stile or rail which is more than 2 inches in length or more than ⅛ inch in depth at any point. These allowable

delaminations shall be in addition to delaminations due to pitch pockets, knotholes, shake, wormholes, splits, and other wood defects. The door shall be deemed to have passed if (a) the specimens of the plywood face meet the requirements of the test, and (b) three of the four 6" x 6" corner sections withstand the test, as described above. If the specimens of the plywood face fail to withstand the test, it shall be repeated with 10 additional specimens cut from another door. If these 10 additional specimens meet the requirements of the test the door shall be deemed to have passed this part of the test. If more than 1 of the 6" x 6" corner sections fails to withstand the test, it shall be repeated with 4 additional specimens cut from another door. If 3 of the 4 additional specimens successfully withstand the test, the door shall be deemed to have passed this part of the test. In cases where a retest either of the plywood face or of the 6" x 6" corner sections is required as described above, it is not necessary that the same door shall pass both tests; it is sufficient if one door passes the plywood face test and another door from the same lot passes the test of the 6" x 6" corner sections. If the door or doors pass the waterproof bond test as described above, the lot from which the door or doors were selected shall be deemed to have passed.

4.3 *Warp* means any distortion in the door itself and not in its relationship to the frame or jamb in which it is hung. Bow shall be determined by applying a straightedge to the concave face of the door and measuring the maximum obtainable deflection from the straightedge to the door as the straightedge is placed in different positions from edge to edge across the door, and from end to end along the door. Twist shall be determined by placing the face of the door against a true plane surface. A simple device to determine and measure twist may be made by placing two cross-members on a post, one about door height and the other slightly above the floor. The cross-members must be perfectly straight and true and plumbed into perfect alinement.

5. GRADING

5.1 *Premium Grade.*—All hardwood veneered hollow-core flush doors that meet the following requirements shall be known as Premium Grade:

5.1.1 The doors shall be produced in conformity with the general requirements set forth in paragraphs 3.1 through 3.17 of this standard.

5.1.2 The face veneer shall be of the species of wood specified and each face shall be tight, smoothly cut veneer unselected for uniformity of color. When the face veneer consists of more than one piece, the joints shall be tight and the faces shall be matched at the joints for color and grain. A few burls, mineral streaks, and slight discolorations shall be permitted. Knots, wormholes, splits, shake, and torn grain shall not be permitted.

5.2 *Good Grade.*—All hardwood veneered hollow-core flush doors that meet the following requirements shall be known as Good Grade:

5.2.1 The doors shall be produced in conformity with the general requirements set forth in paragraphs 3.1 through 3.17 of this standard.

5.2.2 The face veneer shall be of the species of wood specified and each face shall be made up of tight, smoothly cut veneer

containing the natural character markings inherent in the species. If made of more than one piece the faces should be matched at the joints to avoid sharp contrasts in color and grain. A few small burls, occasional pin knots, and slight color streaks or spots shall be permitted. Knots (other than pin knots), wormholes, splits, shake, doze, and other forms of decay shall not be permitted.

5.3 *Paint Grade.*—All hardwood veneered hollow-core flush doors that meet the following requirements shall be deemed sound and known as Paint Grade:

5.3.1 The doors shall be produced in conformity with the general requirements set forth in paragraphs 3.1 through 3.17 of this standard.

5.3.2 The face veneer shall be of the species of wood specified and any defect that will not be visible after two coats of paint shall be permitted.

6. SIZES AND PREFITTING

6.1 *Standard sizes.*

INTERIOR DOORS

1 3/8" and 1 3/4"

1' 6" x 6' 6"	2' 0" x 6' 0"	2' 4" x 6' 8"	2' 8" x 7' 0"
x 6' 8"	x 6' 6"	x 6' 10"	2' 10" x 6' 0"
x 6' 10"	x 6' 8"	x 7' 0"	x 6' 6"
x 7' 0"	x 6' 10"	2' 6" x 6' 0"	x 6' 8"
1' 8" x 6' 6"	x 7' 0"	x 6' 6"	x 6' 10"
x 6' 8"	2' 2" x 6' 0"	x 6' 8"	x 7' 0"
x 6' 10"	x 6' 6"	x 6' 10"	3' 0" x 6' 0"
x 7' 0"	x 6' 8"	x 7' 0"	x 6' 6"
1' 10" x 6' 6"	x 6' 10"	2' 8" x 6' 0"	x 6' 8"
x 6' 8"	x 7' 0"	x 6' 6"	x 6' 10"
x 6' 10"	2' 4" x 6' 0"	x 6' 8"	x 7' 0"
x 7' 0"	x 6' 6"	x 6' 10"	

EXTERIOR DOORS

1 3/4"

2' 8" x 6' 8"	2' 10" x 6' 8"	3' 0" x 6' 8"	
x 6' 10"	x 6' 10"	x 6' 10"	
x 7' 0"	x 7' 0"	x 7' 0"	

6.2 *Prefitting.*—When ordered "prefit," doors shall be supplied as follows:

(a) All doors shall be prefit to 3/16 inch less in width and 1/8 inch less in height than the nominal door size, with a tolerance of 1/32 inch, plus or minus, allowed.

(b) All prefit doors shall have vertical edges slightly eased.

(c) All prefit doors shall have skid blocks, scuff strips, or other type of protection attached to the bottom of the door.

7. INSPECTION

7.1 All hardwood veneered hollow-core flush doors sold as conforming to this Commercial Standard are subject to inspection in

the condition received, and complaints regarding any shipment shall be made within 10 days after receipt thereof. Any rejected doors shall be held, properly protected, for a period of 30 days after notice of rejection and pending adjustment.

8. LABELING

8.1 In order to assure the purchaser that he is getting hardwood veneered hollow-core flush doors of the quality specified, producers may individually, or in concert with their trade associations, grade-mark each door by stamp, brand, or label as conforming to this standard. The following wording is recommended for the label:

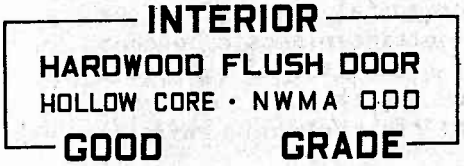
> This ..... Grade hardwood veneered hollow-core flush door complies with all requirements of Commercial Standard CS200-55, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce.
>
> _____
> (Name of manufacturer)

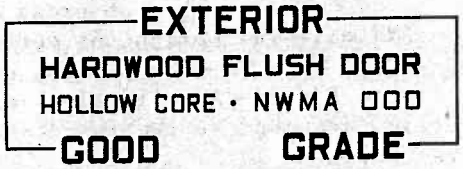
8.2 *Grade marking.*

8.2.1 The following grade marks have been adopted by the National Woodwork Manufacturers Association, Inc., as a means of assuring consumers and distributors that hardwood veneered hollow-core flush doors conform to the high standards of quality defined herein.

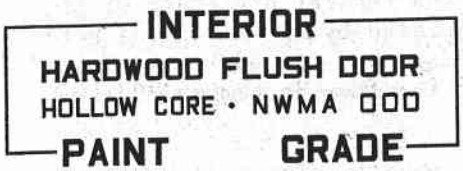
(a) For hardwood veneered hollow-core flush doors of Premium Grade:

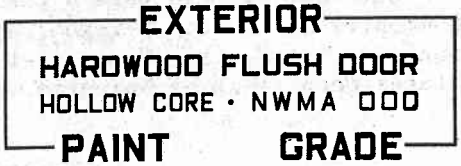
(b) For hardwood veneered hollow-core flush doors of Good Grade:





(c) For hardwood veneered hollow-core flush doors of Paint Grade:





8.2.2 Grade marks should be placed on the upper or lower edge of doors.

9. NOMENCLATURE AND DEFINITIONS

9.1 The definitions below give the meaning of the various terms used in this standard:

Core.—The innermost layer of veneered door construction, enclosed by the faces, stiles, and rails.

Hollow core.—A core assembly of strips or other units of wood, of a wood derivative, or of insulation board complying with Class A insulating board, CS42-49, which supports the outer plywood faces, with intervening hollow cells or spaces.

Mesh core.—A hollow core composed of strips of wood, of a wood derivative, or of insulation board complying with Class A board, CS42-49, the strips so joined and/or interlocked as to form a mesh, lattice, or grid throughout the core area, with air cells or spaces between the strips.

Ladder core.—A hollow core composed of strips of wood, of a wood derivative, or of insulation board complying with Class A board, CS42-49, strips running either horizontally or vertically throughout the core area, with air cells and/or spaces between the strips.

Implanted blanks core.—A hollow core composed of a series of blanks, forms, and shapes of wood, of a wood derivative, or of insulation board complying with Class A board, CS42-49, which may or may not be joined together, implanted between and supporting the outer faces of the door, with air cells or spaces between the blanks.

Crossbanding.—The veneer used in the construction of flush doors which is placed beneath the face veneers, with the direction of the grain at right angles to that of the face veneer.

Flush doors.

Five-ply flush door has two plies of veneer on each side of the core.

Seven-ply flush door has three plies of veneer on each side of the core.

Kiln-dried.—Dried in a closed chamber in which the removal of moisture is controlled by artificial heat and usually by controlled relative humidity.

Rails.—The cross or horizontal pieces of a door.

Bottom rail.—The bottom cross or horizontal piece of a door.

Top rail.—The top cross or horizontal piece of a door.

Stiles.—The upright or vertical outside pieces of a door.

Plywood face.—The plywood used for the face of the door.

Lock block.—A solid block of wood the thickness of the door stile, attached to the inside edge of the stile into which the lock is fitted.

10. EFFECTIVE DATE

10.1 Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard was issued by the United States Department of Commerce, effective from September 20, 1955.

EDWIN W. ELY
Chief, Commodity Standards Division

HISTORY OF PROJECT

On November 11, 1953, the National Woodwork Manufacturers Association requested the cooperation of the Commodity Standards Division in the establishment of a Commercial Standard for hardwood veneered hollow-core flush doors. Although an established Commercial Standard, CS171-50, Hardwood Veneered Doors, covers both hollow-core and solid-core flush doors, it was considered in the best interests of the industry to establish a separate standard for each type. The industry plans later to revise CS171-50 by removing the hollow-core door specifications and adjusting the requirements for solid-core flush doors and stile and rail doors.

A draft of the proposed standard was submitted to interested industry and governmental organizations for advance review, and then adjusted in accordance with the comments received. The recommended Commercial Standard was circulated on November 23, 1954, to the industry for further consideration and written acceptance. Comments received from a number of organizations indicated that some adjustments in the standard were necessary. These comments were considered by a technical committee which met at the Forest Products Laboratory on March 9, 1955. The recommended modifications of this committee, as approved by the Forest Products Laboratory and technical personnel of the National Bureau of Standards, were referred on June 1, 1955, to all acceptors of record. A further modification in requirements for core material was distributed to all acceptors on July 22, 1955.

Upon receipt of official acceptances estimated to represent a satisfactory majority of production by volume, and in the absence of active valid opposition, the standard was promulgated on August 20, 1955, as Commercial Standard CS200-55, to become effective for new production on September 20, 1955.

Project Manager: H. A. BONNET, Commodity Standards Division, Office of Technical Services.
Technical Adviser: GEORGE W. SHAW, Building Technology Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Technical Services, U. S. Department of Commerce, which acts as secretary for the committee.

A. C. HAMMERAND (chairman), Farley & Loetscher Manufacturing Co., Dubuque, Iowa.
CHAS. H. ABBOTT, General Plywood Corp., 32d and Market Sts., Louisville 1, Ky.
J. J. DAVIS, Paine Lumber Co., Ltd., 73 West Algoma St., Oshkosh, Wis.
F. W. HARNEY, Atlas Plywood Corp., Statler Bldg., Boston 16, Mass.
OSCAR WITT, Roddis Plywood Corp., Marshfield, Wis.
JOHN E. HEALY, II, John E. Healy & Sons, Inc., 707 Tatnall St., Wilmington 1, Del. (Represents Associated General Contractors of America, Inc.)
JEFFREY FOLSE, Edgar P. Folse, Inc., P.O. Box 586, New Iberia, La. (Represents Southern Sash & Door Jobbers Association.)
American Institute of Architects. (Invited to name a representative.)
Federal Housing Administration. (Invited to name a representative.)

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, or purchase of hardwood veneered hollow-core flush doors. In accepting the standard, they reserved the right to depart from it as they individually deem advisable. It is expected that hardwood veneered hollow-core flush doors which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS
(General Support)

Carolina Lumber & Building Supply Association, Charlotte, N. C.
Fir Door Institute, Takoma, Wash.
Hardwood Plywood Institute, Chicago, Ill.
Michigan Retail Lumber Dealers Association, Lansing, Mich.
National Woodwork Manufacturers Association, Chicago, Ill.
Southern Pine Inspection Bureau, New Orleans, La.
Southern Sash & Door Jobbers Association, Memphis, Tenn.

FIRMS AND OTHER INTERESTS

Acme Millwork, Inc., Kirkland, Wash.
Acme Sash & Door Co., Cincinnati, Ohio
Adams, Franklin O., Tampa, Fla.
Adams-Rogers Co., Indianapolis, Ind.
Addison-Rudesal, Inc., Atlanta, Ga.
Algoma Plywood & Veneer Co., Division of United States Plywood Corp., Algoma, Wis.
Allen Millwork Manufacturing Corp., Shreveport, La.
Alpert Woodworking Corp., Brooklyn, N. Y.
American Door Distributors, Inc., Waltham, Mass.
American Sash & Door Co., Kansas City, Mo.
Andrews, C. E., Lumber Co., New Bethlehem, Pa.
Andrews, Jones, Biscoe & Goodell, Boston, Mass.
Angel Novelty Co., Inc., Fitchburg, Mass.
Anson & Gilkey Co., Merrill, Wis.
Arizona Sash Door & Glass Co., Tucson, Ariz.
Associated Door & Plywood Co., Chicago, Ill.
Athens Flooring Co., Athens, Ohio.
Augusta Lumber Co., Augusta, Ga.
Bardwell-Robinson Co., Fargo, N. Dak.
Baxter, C. B., & Co., Kansas City, Mo.
Beasley & Sons Co., Nashville, Tenn.
Big Four Lumber Co., Cleveland, Ohio.
Binswanger & Co., Inc., Richmond, Va.
Birmingham Sash & Door Co., Birmingham, Ala.
Blount Lumber Co., Lacona, N. Y.
Bosman & Casson, Inc., Union, N. J.
Brockway-Smith-Haigh-Lovell Co., Charlestown District, Boston, Mass.
Brust & Brust, Milwaukee, Wis.
Buckley, F. S., Door Co., San Francisco, Calif.
Buell & Co., Dallas, Tex.
Buffalo, City of, Department of Public Works, Buffalo, N. Y.
Buffalo Plywood Corp., Buffalo, N. Y.
Buffelen Manufacturing Co., Fort Worth, Tex.
Building Supplies Corp., Norfolk, Va.
Caddo Door & Veneer Co., Shreveport, La.
California Door Company of Los Angeles, Los Angeles, Calif.
California Wood Products, Inc., Santa Rosa, Calif.
Cameron Lumber Co., Inc., Newburgh, N. Y.
Cameron, Wm., & Co., Waco, Tex.
Cannon & Mullen, Salt Lake City, Utah.
Carnahan Manufacturing Co., Inc., Loogootee, Ind.
Carr, Adams & Collier Co., Dubuque, Iowa.
Cellar Lumber Co., Westerville, Ohio.
Central of Georgia Railway Co., Savannah, Ga.
Central Wholesale Co., Inc., Shreveport, La.
Charlottesville Lumber Co., Inc., Charlottesville, Va.
Cincinnati, City of, Cincinnati, Ohio.
Cincinnati Sash & Door Co., Cincinnati, Ohio.
City Line Lumber Corp., Rosedale, L. I., N. Y.
Clarke Veneers and Plywood, Columbia, S.C.
Coates, Henry T., & Associates, Clinton, N. J.
Combs Lumber Co., Lexington, Ky.
Contact Lumber Co., Portland, Oreg.
Cordele Sash, Door & Lumber Co., Inc., Cordele, Ga.
Crawford Corp., Baton Rouge, La.
Curtis Cos., Inc., Chicago, Ill.
Curtis Cos., Inc., Clinton, Iowa.
Curtis Cos., Inc., Lincoln, Nebr.
Curtis Cos., Inc., Minneapolis, Minn.
Curtis Cos., Inc., New London, Wis.
Curtis Cos., Inc., Sioux City, Iowa.
Curtis Cos., Inc., Topeka, Kans.
Curtis Cos., Inc., Wausau, Wis.
Darby, Bogner & Associates, Milwaukee, Wis.
Davidson Sash & Door Co., Austin, Tex.
Davidson Sash & Door Co., Inc., Lake Charles, La.
Dayton Sash & Door Co., Dayton, Ohio.
Deats Sash & Door Co., Los Angeles, Calif.
DeJarnette, Charles Wagner, Des Moines, Iowa.
Delmarva Lumber & Millwork Co., Westville, N. J.
Delmarva Sash & Door Company of Maryland, Inc., Barclay, Md.
Donlin Co., St. Cloud, Minn.
Dykes Lumber Co., New York, N. Y.
Edwards Sash, Door & Lumber Co., Tampa, Fla.

Farley & Loetscher Manufacturing Co., Dubuque, Iowa.
Federal Millwork Corp., Brooklyn, N. Y.
Fink & Schindler Co., San Francisco, Calif.
Fischer Lime & Cement Co., Memphis, Tenn.
Flannagan, Eric G.,& Sons, Henderson, N.C.
Flint Sash & Door Co., Inc., Flint, Mich.
Florida Made Door Manufacturing Co., Orlando, Fla.
Fort Wayne Builders Supply Co., Fort Wayne, Ind.
Gate City Sash & Door Co., Fort Lauderdale, Fla.
General Millwork Corp., Utica, N. Y.
General Plywood Corp., Louisville, Ky.
General Roofing & Construction Co., Saginaw, Mich.
Georgia-Pacific Plywood Co., Acme Door Division, Hoquiam, Wash.
Goshen Sash & Door Co., Goshen, Ind.
Grayson Millwork & Supply Co., Sherman, Tex.
Great Lakes Sash & Door Co., Cleveland, Ohio.
Gulf States Plywood Co., New Orleans, La.
Haley Bros., Santa Monica, Calif.
Haralson & Mott, Fort Smith, Ark.
Harbor Plywood Corp. of California, San Francisco, Calif.
Harbor Sales Co., Inc., Washington, D. C.
Harbor Sales Co., Inc., Baltimore, Md.
Hardwood Products Corp., Neenah, Wis.
Harris Bros. Co., Chicago, Ill.
Haskelite Manufacturing Corp., Grand Rapids, Mich.
Hastings, A. W., & Co., Inc., Somerville, Mass.
Holsman & Co., Chicago, Ill.
Home Building Corp., Sedalia, Mo.
Houston Sash & Door Co., Houston, Tex.
Hussey-Williams Co.,Inc., Ozone Park, N.Y.
Huttig Sash & Door Co., Charlotte, N. C.
Huttig Sash & Door Co., Columbus, Ohio.
Huttig Sash & Door Company of Texas, Dallas, Tex.
Huttig Sash & Door Co., Jacksonville,Fla.
Huttig Sash & Door Co., Knoxville, Tenn.
Huttig Sash & Door Co., Louisville, Ky.
Huttig Sash & Door Co., Miami, Fla.
Huttig Sash & Door Co., Nashville, Tenn.
Huttig Sash & Door Co., Roanoke, Va.
Huttig Sash & Door Co., St. Louis, Mo.
Huttig Sash & Door Co., St. Louis County, Mo.
Indiana Lumber & Manufacturing Co., Inc., South Bend, Ind.
Jacksonville Sash & Door Co., Inc., Jacksonville, Fla.
Keely, Hal, Plywood Co., Pittsburgh, Pa.
Keely, S. S., & Sons, Philadelphia, Pa.
Kellogg, Charles C., & Sons Co., Utica, N. Y.
Koehl, John W., & Son, Inc., Los Angeles, Calif.
Krebs, Arthur H., & Co., Springfield, Ill.
Kullberg Manufacturing Co., Minneapolis, Minn.
Lakeland Door Co., Minneapolis, Minn.
Lee Door Co., New Orleans, La.
Leland Door Co., Suttons Bay, Mich.
Loeb, Laurence M., White Plains, N. Y.
Loetscher & Burch Manufacturing Co., Des Moines, Iowa.
Long-Bell Lumber Co., Kansas City, Mo.
Los Angeles, City of, Department of Public Works, Los Angeles, Calif.
Lumber Dealers, Inc., Denver, Colo.
Lumber & Millwork Co. of Philadelphia, Philadelphia, Pa.
Lumber Products, Inc., Portland, Oreg.
Lumber Yard Supply Co., Great Falls,Mont.
Lumbermen's Credit & Warehouse Co., Kalamazoo, Mich.
Lumbermen's Door & Trim Co., Bedford, Ohio.
Lumbermen's Supply Co., Oklahoma City, Okla.
Mahoney Sash & Door Co., Canton, Ohio.
Mann & Co., Hutchinson, Kans.
Marquart Millwork Co., Oshkosh, Wis.
Mason City Millwork Co., Mason City,Iowa.
McLeland-Harris Door Manufacturing Co., Forth Worth, Tex.
McPhillips Manufacturing Co., Inc., Mobile, Ala.
Melnick, J. A., Co., Inc., Brooklyn, N. Y.
Memphis Sash & Door Co., Memphis, Tenn.
Mengel Co., Louisville, Ky.
Merritt Lumber Yards, Inc., Reading, Pa.
Metropolitan Millwork Co., Brooklyn, N.Y.
Midwest Jobbers, Inc., Chicago, Ill.
Miller & Vrydagh, Terre Haute, Ind.
Minot Builders Supply Co., Inc., Minot, N. Dak.
Mohawk Flush Doors, Inc., Elkhart, Ind.
Moore & Co., Dallas, Tex.
Morgan Co., Oshkosh, Wis.
Morgan Sash & Door Co., Chicago, Ill.
Morgan Sash & Door Warehouse, Lawton, Okla.
Morrison-Merrill & Co., Salt Lake City, Utah.
Muhlenberg Bros., Wyomissing, Pa.
National Plywood Co., Inc., New York, N. Y.
National Woodworks, Inc., Birmingham, Ala.
Neal-Blun Co., Savannah, Ga.
Nebraska, University of, Lincoln, Nebr.
New Mexico Co., Albuquerque, N. Mex.
New Orleans Sash & Door Co., Inc., New Orleans, La.
Newton Lumber & Manufacturing Co., Colorado Springs, Colo.
Noelke-Lyon Manufacturing Co., Burlington, Iowa.
Northern Sash & Door Co., Hawkins, Wis.
Northern Specialty Co., Merrill, Wis.
Norwood Sash & Door Manufacturing Co., Norwood, Ohio.
Nurenburg, W. S., Fort Worth, Tex.
Oklahoma Sash & Door Co., Oklahoma City, Okla.
Pacific Manufacturing Co., Santa Clara, Calif.
Paine Lumber Co., Ltd., Oshkosh, Wis.
Palmetto Sash & Door Co., Inc., Orangeburg, S. C.
Patten-Blinn Lumber Co., Los Angeles, Calif.
Pease Woodwork Co., Hamilton, Ohio.
Perry Door Co., Inc., Burbank, Calif.
Porter-Hadley Co., Grand Rapids, Mich.
Quigley, J.R., Co., Gloucester City, N.J.
Ramsey, A. H., & Sons, Inc., Miami, Fla.
Ready Hung Door Corp., Fort Worth, Tex.
Ready Hung Door Manufacturing Company of Southern California, Burbank, Calif.
Ready Hung Door Manufacturing Corporation of San Antonio, San Antonia, Tex.

Reeb Millwork Corp., Roselle, N. J.
Rinn-Scott Lumber Co., Chicago, Ill.
Rock Island Millwork Co., Rock Island, Ill.
Rockwell of Randolph, Randolph, Wis.
Roddis Plywood Corp., Marshfield, Wis.
Royal Oak Wholesale Co., Royal Oak, Mich.
Rudinger, C. R., Inc., South Kearny, N.J.
Rust Sash & Door Co., Kansas City, Mo.
Saginaw Sash & Door, Saginaw, Mich..
Sanders Bros. Manufacturing Co., Ottawa, Ill.
Sanders Co., Baltimore, Md.
Savannah Door Co., Division of Bradley Plywood Corp., Savannah, Ga.
Schuette, William, Co., Pittsburgh, Pa.
Scott Sash & Door Co., Inc., Little Rock, Ark.
Security Door & Panel Corp., Cornwall Landing, N. Y.
Semling-Menke Co., Inc., Merrill, Wis.
Shenk, Henry, Co., Erie, Pa.
Sierra Mill & Building Materials Co., Sacramento, Calif.
Silbernagel, George J., Chicago, Ill.
Silcrest Co., Wausau, Wis.
Smith, Allen A., Co., Toledo, Ohio
Sothman Co., Grand Island, Nebr.
Southern Sash & Door Co., Greenville, S.C.
Southwestern Sash & Door Co., Joplin, Mo.
Standard Lumber Co., Pine Bluff, Ark.
Steves Sash & Door Co., San Antonio, Tex.
Stoetzel, Ralph, Chicago, Ill.
Stravs, Carl B., Minneapolis, Minn.
Superior Woodwork Co., San Antonio, Tex.
Swan Lake Moulding Co., Klamath Falls, Oreg.
Teachout Sash Door & Glass Co., Detroit, Mich.
Tennessee Glass Co., Nashville, Tenn.
Thomason Plywood Corp.. Fayetteville, N.C.
Thorne, Henry Calder, Ithaca, N. Y.
Topeka, City of, Purchasing Division, Department of Administration, Topeka, Kans.
Trexler Lumber Co., Allentown, Pa.
Underwood Builders Supply Co., Mobile, Ala.
Vaughan, George C., & Sons, San Antonio, Tex.
Vaughan, George C., & Sons, Nederland, Tex.
Vetter Manufacturing Co., Stevens Point, Wis.
Victoria Sash & Door Co., Inc., Shreveport, La.
Villaume Box & Lumber Co., St.Paul, Minn.
Wanke Panel Co., Portland, Oreg.
Washington Woodworking Co., Inc., Washington, D. C.
Wearn Lumber Co., Charlotte, N. C.
Welch, Carroll E., Huntington, N. Y.
Western Door & Sash Co., Oakland, Calif.
Whissel, L. N., Lumber Co., Inc., Buffalo, N. Y.
White Pine Sash Company of Illinois, Chicago, Ill.
Whitmer-Jackson Co., Inc., Buffalo, N. Y.
Whittier Lumber & Millwork Co., Newark, N. J.
Wilson, W. A., & Sons, Inc., Wheeling, W. Va.
Woodstock Lumber & Allied Products, Inc., Charlestown, Mass.
Young Door Co., Novi, Mich.
Zimmerman, A. C., Los Angeles, Calif.

FEDERAL GOVERNMENT AGENCIES

Department of the Army, Office, Deputy Chief of Staff for Logistics.
Civil Aeronautics Administration.
U. S. Forest Service, Missoula, Mont.
National Park Service, U. S. Department of the Interior, Philadelphia, Pa.
Bureau of Prisons, Department of Justice.
Public Buildings Service, General Services Administration.

CS200-55

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date _____

Commodity Standards Division,
Office of Technical Services,
United States Department of Commerce,
Washington 25, D. C.

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production [1] distribution [1] purchase [1] testing [1]

of hardwood veneered hollow-core flush doors. We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those products which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

(Cut on this line)

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____
(Fill in exactly as it should be listed)

Street address _____

City, zone, and State _____

[1] Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

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